

REMARKS

On entry of this Response, Applicant amends claim 1 to recite that “the condenser is provided in the stack container case at a top position covering the stack container case.” Support for the amendment can be found in Figure 2 and the corresponding description in the specification. No new matter is added.

Claims 1-5 and 7-11 are currently pending in the instant application, of which claim 1 is independent. Applicant respectfully submits that the pending claims define over the prior art of record.

I. Rejection of Claims 1, 8, 9 and 11 under 35 U.S.C. § 103(a)

Claims 1, 8, 9 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 2002/053402 (hereafter “Poppinger”) in view of JP 2002-190313 (hereafter “Kususe”) and U.S. Publication No. 2003/0087149 (hereafter “Ando”). Applicant respectfully traverses this rejection for the reasons set forth below.

A. Claim 1

Applicant respectfully submits that the Poppinger, Kususe and Ando references, alone or in any combination, fail to disclose or suggest at least the following feature of independent claim 1: “the condenser is provided in the stack container case at a top position covering the stack container case.”

The Poppinger reference discusses a fuel cell structure in which air is driven in along a mechanical device (20) into a fuel cell module (10). The system also includes a heat exchanger (30) which performs heat exchange on an oil which flows up from the fuel cell module (10) to the heat exchanger (30).

However, the Poppinger reference does not teach or suggest that the condenser is provided in the stack container case *at a top position covering the stack container case*. In Figure 3 of the Poppinger reference, the heat exchanger (30) does not cover the case containing the fuel cell module (10). In Figure 4 of the Poppinger reference, the heat exchanger (30) is not provided at a top position of the case containing the fuel cell module (10). As such, the

Poppinger reference does not teach or suggest that “the condenser is provided in the stack container case at a top position covering the stack container case,” as recited in claim 1.

The addition of the Kususe reference does not cure the shortcomings of the Poppinger reference in teaching or suggesting the above feature of claim 1.

The Kususe reference discusses a fuel cell stack contained in a sealed container (12) and an electrically insulative liquid (4) filling a space around the stack in the sealed container (12). The electrically insulative liquid rises in temperature and is fed to an outside heat exchanger for cooling before it is returned to the sealed container (12).

However, the Kususe reference does not teach or suggest that the condenser is provided in the stack container case *at a top position covering the stack container case*. The heat exchanger discussed in the Kususe reference is external to the sealed container (12). As such, the Kususe reference does not teach or suggest that “the condenser is provided in the stack container case at a top position covering the stack container case,” as recited in claim 1.

The addition of the Ando reference does not cure the shortcomings of the Poppinger and Kususe references in teaching or suggesting the above feature of claim 1.

The Ando reference discusses a battery case (40) including cells (30). The Ando reference also discusses a cooling box (10) in which the cells (40) are inserted so that a coolant flows along the space formed between the inner wall surface of the cooling box (10) and each cell.

However, the Ando reference does not teach or suggest that the condenser is provided in the stack container case *at a top position covering the stack container case*. In the Ando reference, the cooling box (10) is not provided at a top position covering the battery case (40). As such, the Ando reference does not teach or suggest that “the condenser is provided in the stack container case at a top position covering the stack container case,” as recited in claim 1.

Although the Poppinger, Kususe and Ando references are combined, the combination does not teach or suggest the above feature of claim 1. There is no disclosure in the combination

of the Poppinger, Kususe and Ando references that “the condenser is provided in the stack container case at a top position covering the stack container case,” as recited in claim 1.

For at least the reasons set forth above, Applicant respectfully submits that the Poppinger, Kususe and Ando references, alone or in any combination, fail to teach or suggest each and every feature of claim 1. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 103(a).

B. Claims 8, 9 and 11

Claims 8, 9 and 11 depend from independent claim 1 and incorporate all of the features recited in claim 1. For at least the reasons set forth above with respect to claim 1, Applicant respectfully submits that the Poppinger, Kususe and Ando references, alone or in any combination, fail to teach or suggest each and every feature of claims 8, 9 and 11. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 8 and 9 under 35 U.S.C. § 103(a) rejection.

II. Rejection of Claims 2-5 under 35 U.S.C. § 103(a)

Claims 2-5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Poppinger in view of Kususe and Ando and further in view of U.S. Publication No. 2006/0088746 (hereafter “Tuma”). Applicant respectfully traverses this rejection for the reasons set forth below.

Claims 2-5 depend from independent claim 1 and incorporate all of the features recited in claim 1. Applicant respectfully submits that the Poppinger, Kususe, Ando and Tuma references, alone or in any combination, fail to teach or suggest at least the following feature of claims 2-5: “the condenser is provided in the stack container case at a top position covering the stack container case.”

As discussed above, the Poppinger, Kususe and Ando references do not teach or suggest the above feature of claims 2-5.

The addition of the Tuma reference does not cure the shortcomings of the Poppinger, Kususe and Ando references in teaching or suggesting the above feature of claims 2-5.

The Tuma reference discusses fluid transport layers (FTL) that facilitate gas transport to and from the anode and cathode electrode materials and conduct electrical current. In the Tuma reference, the FTL may be coated or impregnated with various materials, including carbon particle coatings, hydrophilizing treatments, and hydrophobizing treatments such as coating with polytetrafluoroethylene (PTFE).

Although Tuma describes that the condenser (124) is coupled to fuel cells (122) in Figure 2a, the Tuma reference does not teach or suggest that the condenser (124) is provided in the stack container case *at a top position covering the stack container case*. There is no disclosure in the Tuma reference that “the condenser is provided in the stack container case at a top position covering the stack container case,” as recited in claims 2-5. Although the Tuma reference is combined with the Poppinger, Kususe and Ando references, the combination does not teach or suggest the above feature of claims 2-5. The combination of the Poppinger, Kususe, Ando and Tuma references is silent about the claimed feature that the condenser is provided in the stack container case at a top position covering the stack container case.

For at least the reasons set forth above, Applicant respectfully submits that the Poppinger, Kususe, Ando and Tuma references, alone or in any combination, fail to teach or suggest each and every feature of claims 2-5. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 2-5 under 35 U.S.C. § 103(a).

III. Rejection of Claim 7 under 35 U.S.C. § 103(a)

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Poppinger in view of Kususe and Ando and further in view of U.S. Patent No. 4,036,291 (hereafter “Kobayashi”). Applicant respectfully traverses this rejection for the reasons set forth below.

Claim 7 depends from independent claim 1 and incorporates all of the features recited in claim 1. Applicant respectfully submits that the Poppinger, Kususe, Ando and Kobayashi references, alone or in any combination, fail to teach or suggest at least the following feature of

claim 7: “the condenser is provided in the stack container case at a top position covering the stack container case.”

As discussed above, the Poppinger, Kususe and Ando references do not teach or suggest the above feature of claim 7.

The addition of the Kobayashi reference does not cure the shortcomings of the Poppinger, Kususe and Ando references in teaching or suggesting the above feature of claim 7.

The Kobayashi reference discusses a coolant disposed in a vapor cooling container (10) which changes from its liquid phase (12) to its vapor phase (26) due to heat generated in a semiconductor element (16). The coolant in its vapor phase (25) is upwardly moved through the connection tube (24) into the condenser (22). Within the condenser (22), the coolant in its vapor phase is condensed into its liquid phase and then drops into the reservoir portion (42).

However, the Kobayashi reference does not teach or suggest that the condenser is provided in the stack container case *at a top position covering the stack container case*. In the Kobayashi reference, the condenser (22) is not provided at a top position covering the stack container case. There is no disclosure in the Kobayashi reference that “the condenser is provided in the stack container case at a top position covering the stack container case,” as recited in claim 7.

For at least the reasons set forth above, Applicant respectfully submits that the Poppinger, Kususe, Ando and Kobayashi references, alone or in any combination, fail to teach or suggest each and every feature of claim 7. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 7 under 35 U.S.C. § 103(a).

IV. Rejection of Claim 10 under 35 U.S.C. § 103(a)

Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Poppinger in view of Kususe and Ando and further in view of U.S. Patent Publication No. 2003/0219635 (hereafter “Lee”). Applicant respectfully traverses this rejection for the reasons set forth below.

Claim 10 depends from independent claim 1 and incorporates all of the features recited in claim 1. Applicant respectfully submits that the Poppinger, Kususe, Ando and Lee references, alone or in any combination, fail to teach or suggest at least the following feature of claim 10: “the condenser is provided in the stack container case at a top position covering the stack container case.”

As discussed above, the Poppinger, Kususe and Ando references do not teach or suggest the above feature of claim 10.

The addition of the Lee reference does not cure the shortcomings of the Poppinger, Kususe and Ando references in teaching or suggesting the above feature of claim 10.

The Lee reference discusses a fuel cell cooling system including a pressure control mechanism for maintaining a pressure level within the fuel cell stack to cause a phase change of the coolant within the stack. The Lee reference also discusses a condenser (80) for cooling the coolant received from the pressure control mechanism.

However, the Lee reference does not teach or suggest that the condenser is provided in the stack container case *at a top position covering the stack container case*. Although the Lee reference describes a condenser (80) in Figure 2, the condenser (80) is not provided in the stack container at a top position covering the stack container case. There is no disclosure in the Lee reference that “the condenser is provided in the stack container case at a top position covering the stack container case,” as recited in claim 10.

For at least the reasons set forth above, Applicant respectfully submits that the Poppinger, Kususe, Ando and Lee references, alone or in any combination, fail to teach or suggest each and every feature of claim 10. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejection of claim 10.

V. Conclusion

In view of the foregoing amendments and arguments, Applicant believes that the pending application is in condition for allowance. Should the Examiner feel that a teleconference would

expedite the prosecution of this application, the Examiner is urged to contact the Applicant's attorney at (617) 227-7400.

Any fee due is authorized to be charged to our Deposit Account No. 12-0080, under Order No. TOW-153US from which the undersigned is authorized to draw. If a requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. § 1.136(a) for an extension of time for as many months as are required to render this submission timely.

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